## ABSTRACT

An optical device mounted substrate assembly includes a ceramic substrate having a first recess, an optical device mounted on the ceramic substrate and having one of a light emitting portion and a light receiving portion, the optical device being to be optically connected to one of an optical waveguide and an optical fiber connector in way as to align optical axes of the optical wave guide or the optical fiber connector with each other, a resin layer disposed in 10 the first recess and having a second recess smaller in diameter than the first recess, and an alignment guide member fitted in the second recess and having a protruded portion protruding from a front surface of the ceramic substrate and fittingly engageable in an 15 alignment hole of one of the optical waveguide and the optical fiber connector. A fabrication method of such a substrate assembly is also provided.